

**METHOD AND APPARATUS FOR REAL-TIME GLOBAL
ILLUMINATION INCORPORATING STREAM PROCESSOR BASED
HYBRID RAY TRACING**

ABSTRACT OF THE DISCLOSURE

5 A method for calculating a lighting function for an object to be rendered using a
basis function is provided. The method includes calculating a transfer function
approximation of the lighting function through a stream processor. A method for
presenting lighting characteristics associated with a display object in real-time and a
method for determining secondary illumination features for an object to be displayed are
10 also provided. A computer readable medium and a computing device having a graphics
processing unit capable of determining lighting characteristics for an object in real time
are also included.